

REMARKS

This amendment is responsive to the non-final Office Action mailed on May 24, 2005. Claims 1-20 are pending, claims 21-27 are new, and claims 1, 15 and 18 have been amended. In view of the foregoing amendments, as well as the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

Rejections of Claims Under 35 U.S.C. § 102

Claims 1 and 7 over Turner

Claims 1 and 7 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,571,721, *Turner* (hereinafter *Turner*). Of the rejected claims, claim 1 is the only independent claim. The Examiner contends that *Turner* shows or teaches all the elements of the rejected claims. Applicants respectfully traverse the Examiner's contention.

In contrast to Applicants' independent claim 1, as amended, *Turner* does not disclose or suggest "placing the transparent panel and the upper frame portion in a positional relationship with a layer of a light-curable adhesive disposed therebetween in a configuration corresponding to the grid pattern and in a thickness ranging from about 0.0005" to about 0.005". The structure disclosed in *Turner* has an adhesive of a considerably greater thickness located between the panel and upper frame portion. Specifically, the thickness of the multilayer film (38) in *Turner* is, at a minimum, 1.5 millimeters or 0.06" and the thickness of the adhesive layers (40, 44) alone is, at a minimum, 1.0 millimeter or 0.04". In any event, this is almost an order of magnitude greater than the adhesive thickness set forth in Applicants' claim 1. *Turner* does not disclose a thickness for any of the adhesive layers (18) shown in Figs. 5A-F.

In order for a reference to anticipate the invention in a claim, the reference must teach each and every element in the precise arrangement set forth in the claim. If the reference fails to teach even one of the claimed elements, the reference does not and cannot anticipate the claimed invention. Because *Turner* fails to disclose a method for making a multi-well test plate with an adhesive thickness in the range set forth in Applicants' claim 1, *Turner* does not anticipate independent claim 1 for at least this reason. Therefore, Applicants respectfully request that this rejection be withdrawn.

Turner does not provide any suggestion to modify a method of making the disclosed culture or chamber slide such that the disclosed adhesive layers are thinned to a thickness in the range of about 0.0005" to about 0.005". In fact, *Turner* does not disclose that the chamber slide would work for its intended purpose if the adhesive layers were thinned. Specifically, *Turner* discloses a chamber slide construction in which the upper frame portion must be removable from the panel. This removability is required because the test samples on the panel of the chamber slide comprise cultured cells; the cells are analyzed in an optical microscope with the test samples sandwiched between the panel and a coverslip placed on the panel after the upper frame portion is removed. If the upper frame portion were not removed, it would interfere with placing the chamber slide in a viewable position within the optical microscope due to the increased height and, in addition, would prevent the addition of a coverslip. When in the viewable position, the optical microscope images the test samples (cultured cells) on the panel of the chamber slide from above the panel. Consequently, the adhesive layer in *Turner* must be applied such that the upper plate portion is removable and such that the adhesive layer remains bonded to the upper plate so that adhesive does not interfere with the proper placement of a coverslip.

Claim 1 is also amended to limit the multi-well test plate to that used for assaying liquid samples; thus the upper frame and support plate must remain intact so that the liquid samples are contained throughout the assay procedure. *Turner* teaches and claims a culture slide with an upper compartment releasably bonded to the slide. Therefore, *Turner* does not anticipate claim 1 as amended.

Because claim 7 depends from independent claim 1, Applicants submit that this claim is also patentable for at least the same reasons discussed above. Furthermore, this claim recites a unique combination of elements not taught, disclosed, or suggested by *Turner*.

Rejection of Claims Under 35 U.S.C. § 103

Claims 2-6 and 8-20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Turner*. Applicants respectfully traverse the rejection for the reasons set forth in the following remarks.

Because claims 2-6 and 8-17 depend from independent claim 1, and claim 1 has been amended, Applicants submit that these claims are also patentable. Furthermore, each of these claims recites a unique combination of elements not taught, disclosed or suggested by *Turner*.

These claims are patentable for at least an additional reason in that there is no motivation to modify *Turner*. In contrast to the culture slides taught in *Turner*, the claimed multi-well test plate carries liquid samples that are analyzed with the upper frame portion affixed in position on the panel. This is possible because the test samples on a multi-well test plate are analyzed by a spectrometer, which directs light onto the samples from the panel side opposite to the side carrying the upper frame portion and measures light absorption. Consequently, the

upper frame portion of a multi-well test plate may be permanently affixed to the panel without compromising the readings. No provision is needed in a multi-well test plate for configuring the adhesive bond between the panel and upper frame portion so that the upper frame portion is removable, as is required in *Turner*. Furthermore, *Turner* does not disclose that thin layers between about 0.0005" to about 0.005" would provide the requisite removability. For at least these reasons, a person having ordinary skill in the art would not be motivated to modify *Turner* such that the light-curable adhesive disposed between the transparent panel and the upper frame portion has a thickness ranging from about 0.0005" to about 0.005".

Turner is also not concerned with the thickness of the adhesive because the upper frame portion is removed before examination in an optical microscope. The primary concern in *Turner* is achieving a clean separation so that adhesive residue does not contaminate the panel surface. In contrast, the adhesive thickness in a multi-well test plate is a significant concern. Specifically, the supporting panel must lie virtually flat with respect to the frame portion to which it is adhesively bonded. Otherwise, distortions in the supporting panel created by non-uniform application of adhesive may affect the absorbance readings as light is passed through the supporting panel. Uniformity is easier to achieve with a very thin layer compared to a thicker layer. Moreover, the individual wells in a multi-well plate are considerably smaller than the individual wells in a chamber slide. If the adhesive layer is applied overly thick in a multi-well test plate, small amounts of adhesive are more likely to be extruded into the wells when the panel and upper frame portion are assembled. A person having ordinary skill in the art would not be motivated to decrease the adhesive thickness in *Turner's* chamber slide. Consequently, for this additional reason, Applicants request that the rejection of these claims be withdrawn.

Turner teaches away from the claimed subject matter. As explained above, the structure disclosed in *Turner* requires a relatively thick adhesive layer and a releasable adhesive bond between the upper frame and the panel. *Turner* teaches the adhesive layer should be relatively thick to provide the requisite releasability. Consequently, for this additional reason, Applicants request that the rejection of these claims be withdrawn.

With further regard to these rejections, the Examiner is also conclusory regarding a source of a motivation for modifying *Turner* in a manner sufficient to render claims 2-6 and 8-17 unpatentable. For example, the Examiner argues with regard to Applicants' claim 3 that it would have been obvious to use "a notoriously conventional [silk screening] process in the method of *Turner*." Page 3 of Office Action. As another example, the Examiner argues with regard to Applicants' claims 8-14 that "both visible light curing adhesives and uv curable adhesives are conventional." Page 4 of Office Action. As yet another example, the Examiner contends that the subject matter of claims 15-17 is "conventional and therefore obvious." Page 4 of Office Action. Applicants remind the Examiner of the high standard set forth in MPEP Section 2144.03 for using conventionality as a rationale to support an obviousness-type rejection. Applicants further remind the Examiner of the obligation to support a finding with adequate evidence if a factual assertion is challenged. The Examiner makes a number of conclusory statements regarding a motivation to modify *Turner* to reject many of these dependent claims based upon the claimed subject matter allegedly being conventional. The mere conventionality of the claimed subject matter, as alleged by the Examiner, does not *per se* render Applicants' claimed inventions obvious absent an appropriate motivation to modify *Turner* without some objective rationale for making these modifications. The Examiner must consider each claimed invention as a whole. To do so, the Examiner cannot simply rely upon conventionality as a

rationale to modify *Turner* to include supposedly, as alleged by the Examiner, conventional subject matter. This represents circular reasoning on the part of the Examiner as virtually every claim ever submitted to the U.S. Patent and Trademark Office could be rejected under a conventionality standard. The Examiner apparently is improperly relying upon hindsight analysis based upon the Applicants' disclosure to find a motivation to reject the claimed subject matter directed to methods of making a multi-well test plate as obvious over *Turner*. Otherwise, the Examiner would not recognize a proper motivation to make a multi-well test plate by the claimed methods.

Independent claim 18, which has been amended in a manner analogous to the amendments made to claim 1, is patentable for at least the same reasons as independent claim 1, as discussed above. Because claims 19 and 20 depend from independent claim 18, Applicants submit that these claims are also patentable for at least the same reasons discussed above. Furthermore, each of these claims recites a unique combination of elements not taught, disclosed or suggested by *Turner*. Consequently, Applicants request that the rejection of these claims be withdrawn.

Independent claim 18 is patentable for additional reasons. Specifically, Applicants admit that silk screening or screen printing is "notoriously well known and conventional in the art" for applying adhesives. Under the Examiner's stated rationale for rejecting claim 18, virtually every claim submitted to the U.S. Patent and Trademark Office would be obvious. Applicants' claim 18 sets forth a method of making a multi-well test plate that includes spreading a generally even layer of light curable adhesive on a surface of the screen opposite to the transparent panel and wiping the adhesive from the screen to urge portions thereof through the apertures and onto the upper surface of the transparent panel. Applicants

admit that these constitutes elements of a screen printing process. However, *Turner* does not teach a screen printing process, nor the benefits of a screen printing process, for assembling a chamber slide, much less a multi-well test plate. A person having ordinary skill in the art, absent an objective motivation, would not recognize that a screen printing process would be used to apply a thin adhesive layer for adhesively bonding the panel and upper frame portion of a multi-well test plate. Some of the reasons that it would not have been obvious to a person having ordinary skill in the art to modify *Turner*, which does not disclose an application technique for the adhesive, are set forth in Applicants' preceding remarks above. Screen printing is one approach for making a thin adhesive layer with a thickness ranging from about 0.0005" to about 0.005".

Applicants also incorporate by reference the preceding comments regarding the Examiner's use of conventionality as a motivation to modify *Turner* in the suggested manner.

New Claims

Claims 21-27 are submitted as new claims that depend from a patentable independent claim 1 and, consequently, are patentable for at least the same reasons as claim 1. Furthermore, these claims recite unique combinations of elements not disclosed or suggested by *Turner*.

Specifically and with regard to dependent claim 21, *Turner* does not disclose or suggest a method of making a multi-well test plate in which the upper frame portion may include a plurality of 384 wells. Instead, *Turner* is directed to making a chamber slide, which has significantly fewer wells as appreciated by a person of ordinary skill in the art. With regard to dependent claim 22, *Turner* does not disclose or suggest a method of making a multi-well test

plate in which the upper frame portion is permanently attached to the panel by the layer of the light-curable adhesive. Instead, *Turner* teaches away from permanent attachment because removability of the upper frame portion is crucial to the operability of a chamber slide. With regard to dependent claim 23, *Turner* does not disclose or suggest a method of making a multi-well test plate in which the layer of the light-curable adhesive provides a permanent seal between the upper frame portion and the panel. As mentioned previously, *Turner* teaches away from the adhesive layer in the chamber slide supplying a permanent seal, as removability of the upper frame portion is crucial to the operability of a chamber slide. With regard to dependent claim 24, *Turner* does not disclose or suggest a method of making a multi-well test plate in which the light-curable adhesive is thixotropic with a viscosity greater than about 8,000 centipoise. Due to the configuration of the adhesive in the chamber slide disclosed in *Turner*, a viscosity of this magnitude is not required because adhesive flow promoted by an insufficient viscosity is not a concern in a chamber slide. With regard to dependent claim 25, *Turner* does not disclose or suggest a method of making a multi-well test plate in which light is provided in a power range of 500 watts to 1,000 watts to cure the light curable adhesive. With regard to dependent claim 26, *Turner* does not disclose or suggest a method of making a multi-well test plate in which the layer of the light-curable adhesive has a thickness in the range from about 0.002" to about 0.004". These reasons are similar to those set forth above with regard to independent claim 1. With regard to dependent claim 27, *Turner* does not disclose or suggest a method of making a multi-well test plate in which the light-curable adhesive is non-autofluorescent. This is not a concern in the chamber slide disclosed in *Turner* because the test samples on chamber slides are imaged with an optical microscope, as opposed to the absorption methods used when reading the test samples on a multi-well test plate.

Conclusion

Applicants have made a bona fide effort to respond to each and every requirement set forth in the Office Action. In view of the foregoing amendments and remarks, this application is submitted to be in complete condition for allowance and, accordingly, a timely notice of allowance to this effect is earnestly solicited. In the event that any issues remain outstanding, the Examiner is invited to contact the undersigned to expedite issuance of this application.

Applicants do not believe fees are dues in connection with filing this communication other than the excess claims fee and the one month extension fee. If, however, any additional fees are necessary as a result of this communication, the Commissioner is hereby authorized to charge any under-payment or fees associated with this communication or credit any over-payment to Deposit Account No. 23-3000.

Respectfully submitted,
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